

Claims

1. A postal item check-in system comprising
a control unit having
- 5 a central data processing unit,
data storage means,
means for communicating information to a customer,
means for receiving information from a customer to the control unit,
means for communicating with a global computer network, and
- 10 means for OCR (optical character recognition),
the system further comprising
a payment device for receiving payment from a customer, the operation of said
payment device being controlled by the control unit, and
a printing device being enabled to print a postal delivery address, the operation of
- 15 said printing device being controlled by the control unit,
the control unit being enabled to look up delivery addresses in a database comprising
valid postal delivery addresses, validate a user-provided address, and control the
operation of the printing device according to the validated address, and the control unit
further being enabled to receive commands from a customer via the global computer
- 20 network,
the means for OCR being enabled to read a text on an item delivered to the system and
communicate a content of the text to the central data processing unit.
2. A system according to claim 1, further comprising means for identification of a
- 25 customer.
3. A system according to claim 2, wherein the means for identification comprises an iris
scanner.
- 30 4. A system according to claim 2, wherein the means for identification comprises a finger
print scanner.
5. A system according to claim 1, further comprising a weighting unit being adapted for
providing an output indicating the weight of a postal item placed at a weighting position of
- 35 said unit to the control unit.

6. A system according to claim 5, wherein the weighting unit comprises conveying means for transporting the postal item to and from the weighting position and drive means for driving the conveying means, the operation of the drive means being controlled by the
5 control unit.

7. A system according to claim 1, wherein the payment device comprises a card reader for reading information from credit cards.

10 8. A system according to claim 1, wherein the payment device is enabled to receive bank notes and/or coins.

9. A system according to claim 1, wherein the printing device further is able to print machine-readable codes.

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10. A system according to claim 1, wherein the printing device further is able to provide franking for the postal item.

11. A system according to claim 1, wherein the printing device comprises means for
20 positioning adhesive labels relatively to a printer unit of the printing device so that the printer unit prints on the adhesive label.

12. A system according to claim 11, further comprising a device for applying the adhesive label to the postal item.

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13. A system according to claim 1, wherein the printing device further comprises means for printing on the postal item.

14. A system according to claim 1, the system comprising a printing device for printing
30 receipts to the customer.

15. A system according to claim 1, wherein the control unit is able to validate credit card data via the global computer network so as to enable the control unit to validate a credit card being entered into the credit card reader.

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16. A system according to claim 15, wherein the control unit is able to charge credit card accounts via the global computer network, the control unit being able to initiate charge of a credit card account so as to enable the system to receive credit card payment.
- 5 17. A system according to claim 1, wherein the control unit can communicate via the global computer network with a database comprising valid postal delivery addresses.
18. A system according to claim 1, wherein the control unit can allocate a unique identification code to each of the postal items being checked in at the system, the control
- 10 unit being able to communicate said identification code and the corresponding valid delivery address of each of said postal items via the global computer network.
19. A system according to claim 18, wherein the system comprises means for applying a machine-readable code to each of the postal items being checked in at the system.
- 15 20. A system according to claim 19, wherein the machine-readable code provides a significant indication of the unique identification code.
21. A system according to claim 1, wherein the control unit is enabled to suggest one or
- 20 more valid postal delivery addresses to the customer based on partial address information received from the customer.
22. A system according to claim 21, wherein the control unit is enabled to suggest one or more valid postal delivery addresses to the customer if part of the information received
- 25 does not comply with a valid postal delivery address comprised in the database.
23. A system according to claim 1, wherein the system further comprises an item receiving unit having
- a cylinder shell part defining an interior cavity of said part, the shell part having an
- 30 opening defined therein for allowing postal items to pass between the exterior and the interior of said part, the cylinder shell part being arranged pivotally about a substantially vertical axis of symmetry of said cylinder shell part,
- a front plate part being fixedly arranged and having an opening defined therein for allowing postal items to pass the front plate part,

the cylinder shell part and the front plate part being arranged in close proximity in such a way that the openings of said parts at a receiving angular position of the cylinder shell part are aligned so as to allow for postal items to pass both openings and so that the opening of said front plate part at one or more discharge angular positions of the cylinder shell part

5 is closed by the cylinder shell part,

the item receiving unit further having drive means for turning the cylinder shell part between said angular positions, the operation of the drive means being controlled by the control unit.

10 24. A system according to claim 23, the system comprising a weighting unit being adapted for providing an output indicating the weight of a postal item placed at a weighting position of said unit to the control unit, the weighting unit being arranged within the interior cavity of the cylinder shell part.

15 25. A system according to claim 24, wherein the weighting unit is arranged pivotally about the same axis as the cylinder shell part and the weighting unit has a fixed angular position relatively to the cylinder shell part.

26. A system according to claim 25, wherein the weighting unit comprises conveying
20 means for transporting the postal item to and from the weighting position and drive means for driving the conveying means, the operation of the drive means being controlled by the control unit, and wherein the conveying means of the weighting unit comprises an endless belt being arranged movably in a direction perpendicular to the opening defined in the cylinder shell part, the endless belt defining a substantially horizontal surface for
25 supporting postal items.

27. A system according to claim 23, wherein the front plate part towards the cylinder shell part has an inner surface shaped as a concave cylinder section of a radius being substantially equal to the outer radius of the cylinder shell part.

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28. A system according to claim 27, wherein the inner surface of the front plate part at least in one angular direction from the opening defined in the front plate part extends over an angle being at least the size of the angle of the opening defined in the cylinder shell part, so that the inner surface at least at one angular position of the cylinder shell part
35 covers the opening defined in the cylinder shell part.

29. A system according to claim 1, wherein the system receives commands from a customer via the global network.
- 5 30. A system according to claim 1, wherein the system is further being adapted for selling tickets, and wherein the printing device is adapted for printing said tickets.
31. A system according to claim 1, the system further being adapted for selling stamps, and wherein the printing device is adapted for printing said stamps.
- 10 32. A system according to claim 31, wherein the stamp is printed directly on a postal item.
33. A system according to claim 1, the system further being adapted for receiving return goods and delivering said return goods for further processing.
- 15 34. A system according to claim 1, wherein the global computer network is the internet.
35. An item check-in system comprising
- 20 a control unit having
- a central data processing unit,
- data storage means,
- means for communicating with a global computer network, and
- means for OCR (optical character recognition),
- the system further comprising
- 25 an item receiving unit having
- a cylinder shell part defining an interior cavity of said part, the shell part having an opening defined therein for allowing items to pass between the exterior and the interior of said part, the cylinder shell part being arranged pivotally about a substantially vertical axis of symmetry of said cylinder shell part,
- 30 a front plate part being fixedly arranged and having an opening defined therein for allowing items to pass the front plate part,
- the cylinder shell part and the front plate part being arranged in close proximity in such a way that the openings of said parts at a receiving angular position of the cylinder shell part are aligned so as to allow for items to pass both openings and so that the opening of said

front plate part at one or more discharge angular positions of the cylinder shell part is closed by the cylinder shell part,

the item receiving unit further having drive means for turning the cylinder shell part between said angular positions, the operation of the drive means being controlled by the
5 control unit,

the control unit further being enabled to receive commands from a customer via the global computer network,

the means for OCR being enabled to read a text on an item delivered to the system and communicate a content of the text to the central data processing unit.

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36. A system according to claim 35, further comprising a weighting unit arranged within the interior cavity of the cylinder shell part and being adapted for providing an output indicating the weight of a item placed at a weighting position of said unit to the control unit, the weighting unit comprising conveying means for transporting the item to and from
15 the weighting position and drive means for driving the conveying means, the operation of the drive means being controlled by the control unit.

37. A system according to claim 36, wherein the weighting unit is arranged pivotally about the same axis as the cylinder shell part and the weighting unit has a fixed angular position
20 relatively to the cylinder shell part.

38. A system according to claim 37, wherein the conveying means of the weighting unit comprises an endless belt being arranged movably in a direction perpendicular to the opening defined in the cylinder shell part, the endless belt defining a substantially
25 horizontal surface for supporting items.

39. A system according to claim 35, wherein the front plate part towards the cylinder shell part has an inner surface shaped as a concave cylinder section of a radius being substantially equal to the outer radius of the cylinder shell part.

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40. A system according to claim 39, wherein the inner surface of the front plate part at least in one angular direction from the opening defined in the front plate part extends over an angle being at least the size of the angle of the opening defined in the cylinder shell part, so that the inner surface at least at one angular position of the cylinder shell part
35 covers the opening defined in the cylinder shell part.

41. A system according to claim 35, wherein the means for OCR is arranged within the interior cavity of the cylinder shell part and being adapted for providing an output indicating the content of a text on an item placed within the interior cavity.

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42. A system according to claim 35, wherein the global computer network is the internet.

43. A method of performing customer check-in of postal items using a system according to any of the preceding claims, the method comprising the following steps:

- 10 the customer enters relevant data to the system via a global computer network,
 the customer enters the postal item into an item receiving unit,
 the customer identifies himself,
 the customer pays for the postal service using a payment device of the system,
and
15 a printing device controlled by the control unit prints a delivery address.

44. A postal item check-in and delivery system comprising

- a control unit having
 a central data processing unit,
20 data storage means,
 means for communicating information to a customer, and
 means for receiving information from a customer to the control unit,
the system further comprising
 a payment device for receiving payment from a customer, the operation of said
25 payment device being controlled by the control unit, and
 a receiving and/or delivery platform for receiving and/or delivering postal items from/to a customer,
 at least two storage parts for storing postal items which have been received from customers and/or postal items which are to be delivered to customers, and
30 a connecting part being enabled to connect the receiving and/or delivery platform to a chosen one of the at least two storage parts, so as to allow a postal item to be transferred in a chosen direction between the platform and the chosen storage part.

45. A system according to claim 44, further comprising a printing device being enabled to print a postal delivery address, the operation of said printing device being controlled by the control unit.
- 5 46. A system according to claim 44, wherein the receiving and/or delivery platform comprises a weighting unit being adapted for providing an output indicating the weight of a postal item placed at the receiving and/or delivery platform.
47. A system according to claim 44, wherein the receiving and/or delivery platform
- 10 comprises transferring means for transferring an item positioned on the platform to the connecting part.
48. A system according to claim 44, wherein the connecting part comprises transferring means for transferring an item positioned on the connecting part to the receiving and/or
- 15 delivery platform and/or to a chosen one of the at least two storage parts.
49. A system according to claim 44, wherein the control unit is further enabled to look up delivery addresses in a database comprising valid postal delivery addresses, and validate a user-provided address.
- 20 50. A system according to claim 44, wherein the at least two storage parts are arranged in a substantially linear configuration, and wherein the connecting part is enabled to perform a corresponding substantially linear movement in order to connect the receiving and/or delivery platform and a chosen storage part.
- 25 51. A system according to claim 44, wherein the at least two storage parts are arranged in a substantially circular or semicircular configuration, and wherein the connecting part is enabled to perform a corresponding substantially circular movement in order to connect the receiving and/or delivery platform and a chosen storage part.
- 30 52. A system according to claim 44, wherein the at least two storage parts are arranged movably on a frame, and wherein the storage parts may be moved in order to connect a chosen storage part and the connecting part.

53. A system according to claim 44, wherein the connecting part comprises level adaptation means for adapting the level of the connecting part to the level of a chosen storage part.

- 5 54. A system according to claim 44, wherein the system further comprises an item receiving and/or delivering unit having

a cylinder shell part defining an interior cavity of said part, the shell part having an opening defined therein for allowing postal items to pass between the exterior and the interior of said part, the cylinder shell part being arranged pivotally about a substantially

- 10 vertical axis of symmetry of said cylinder shell part,

a front plate part being fixedly arranged and having an opening defined therein for allowing postal items to pass the front plate part,

the cylinder shell part and the front plate part being arranged in close proximity in such a way that the openings of said parts at receiving and/or delivery angular position of the

- 15 cylinder shell part are aligned so as to allow for postal items to pass both openings and so that the opening of said front plate part at one or more discharge and/or delivery angular positions of the cylinder shell part is closed by the cylinder shell part,

the item receiving and/or delivery unit further having drive means for turning the cylinder shell part between said angular positions, the operation of the drive means being

- 20 controlled by the control unit.

55. A method of delivering items from an item delivery system, the system comprising a control unit, a delivery platform, at least two storage parts for storing items to be delivered to customers, and a connecting part being enabled to connect the delivery platform to a

- 25 chosen one of the at least two storage parts, the connecting part comprising drive means being controlled by the control unit, the method comprising the steps of

a customer identifying himself or herself,

the control unit identifying an item to be delivered,

the control unit identifying the storage part containing the item to be delivered,

- 30 the system conveying the item from said storage part via the connecting part to the delivery platform,

the customer receiving the item.

56. A method according to claim 55, wherein the step of identifying the storage part

- 35 containing the item to be delivered comprises the step of determining whether the

connecting part is currently connecting the delivery platform and said storage part, and wherein the conveying step comprises the step of moving at least part of the connecting part so as to interconnect the delivery platform and said storage part in case the connecting part is not currently connecting the delivery platform and said storage part.

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57. A method according to claim 55, the system further comprising a printing device, the method further comprising the step of the printing device printing a receipt to the customer.

10 58. A method according to claim 55, the method further comprising the step of advising the customer that an item is to be delivered at the item delivery system.

59. A method according to claim 58, wherein the advising step is performed using a global computer network.

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60. A method according to claim 58, wherein the advising step is performed by the system sending a message to a cellular telephone.

61. A method according to claim 55, the system further comprising a payment device for
20 receiving payment from a customer, the method further comprising the step of the customer providing payment before the item is delivered.

62. A method according to claim 61, the payment device comprising a card reader for
reading information from credit cards, the method further comprising the steps of
25 the customer entering a credit card into the payment device,
the control unit validating the credit card, and
the control unit charging the credit card in case the credit card is valid.

63. A method according to claim 62, the system being connected to a global computer
30 network, wherein the validating step is performed using the global computer network.

64. A method of performing maintenance and/or service on an item check-in and/or
delivery system, the system comprising a control unit having means for communicating
with service personnel, the method comprising the steps of

the service personnel establishing an electronic connection between an electronic service tool and the control unit of the system,

the service personnel performing the maintenance and/or service required via the established electronic connection using the electronic service tool, and

5 the service personnel disrupting the established connection.

65. A method according to claim 64, wherein the step of establishing an electronic connection comprises establishing a connection between a central computer positioned at a service centre and the control unit of the system by means of a global computer

10 network.

66. A method according to claim 64, wherein the step of establishing an electronic connection comprises establishing a wireless connection between the electronic service tool and the control unit of the system.

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67. A method according to claim 66, wherein the step of establishing a wireless connection comprises the establishing an infrared connection between the electronic service tool and the control unit of the system.

20 68. A method according to claim 64, wherein the step of establishing an electronic connection comprises establishing a connection via a telecommunication network.

69. A method according to claim 64, wherein the step of establishing an electronic connection comprises establishing a connection between a first central computer

25 positioned at a service centre and a second central computer being connected to a plurality of item check-in and delivery systems, the system needing maintenance and/or service being one of said plurality of systems.

70. A method according to claim 64, wherein the step of performing the maintenance and/or service required comprises preparation in connection with on-location maintenance and/or service.

71. A method according to claim 64, the system further comprising a weighting unit for weighting the items being checked in or delivered, wherein the step of performing
30 maintenance and/or service comprises the step of calibrating the weighting unit.

72. A method according to claim 64, wherein the step of performing maintenance and/or service comprises installation of software in the control unit of the system.